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Ocean Beach Restoration Initiative

A 100-Year Plan for the State's Beaches

Executive Summary

July, 1987

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Ocean Beach Restoration Initiative

From Salisbury Beach to the north and Horseneck Beach to the south, the Massachusetts coastline covers nearly 2,000 miles. Only 7% of the shore is publicly owned and open to all citizens of the Commonwealth.

Yet, demand for beach recreation is large and growing,

Massachusetts' ocean beaches lie within a day's drive of one quarter of the nation's population. Seventy-five percent of our own state's population live within a half-hour drive of the coast. The Department of Environmental Management's (DEM) ten miles of beaches see three million swimmers and sunseekers each year -- that is 300,000 people per mile of beach!

The challenge is clear. How can the state upgrade existing facilities and develop new ones to accommodate public recreation, while protecting delicate beach ecosystems?

To meet the challenge, DEM staff studied beaches along the eastern seaboard from Maine to North Carolina. They examined beaches operated by federal, state, county, and local governments and non-profit agencies; and they met with beach managers, landscape architects, biologists, and recreation specialists. The resulting Ocean Beach Restoration Initiative is the most comprehensive state-of-the-art guide to beach planning anywhere on the East Coast. It will be refined in cooperation with Massachusetts coastal communities, state agencies and citizen groups to reflect up-to-date knowledge of ocean beach management. The Ocean Beach Initiative will guide DEM in rehabilitating state beaches and developing new ones as coastal land is acquired for public use.

"The quality of the park experience shall be maintatined without compromising the environment."

Ocean beaches have traditionally been developed for one purpose -- to provide recreation for the maximum number of people. The environmental sensitivity of the beach ecosystem was not a primary concern.

Unfortunately, past and present design and management practices resulted in dunes being trampled, sand blowing away, and erosion claiming important wildlife habitats and natural resources.

DEM's Ocean Beach Restoration Initiative seeks to reach a sensible balance -- to provide beachgoers with an enjoyable, attractive recreation facility while simultaneously protecting the natural environment from necessary intrusion and overuse.

The plan calls for beach areas to be designed to accommodate the greatest public use with a high quality of experience, within bounds that ensure environmental protection.

- Buildings, boardwalks, and parking lots will be constructed only in areas that can accommodate these uses without environmental harm.

- Sensitive natural areas, such as nesting sites, barrier dunes, salt marshes, and wetlands will be protected from public intrusion.

A crucial component in the design of the "beach of the future" is education, so that both beach managers and the public understand natural coastal processes and how human activities affect the future of the beach.

- DEM will train staff in state-of-the-art beach management, accommodate ongoing scientific research at some of its beaches, and provide a full array of programs to educate beach visitors.

"Because pedestrians will use the easiest route to their destination...."

The primary dune is the first line of defense against storms. It absorbs and mitigates the force of the waves and protects the mainland from damage and flooding. Vegetation on the dunes helps keep them stable, minimizing wind erosion. Barrier dunes, which protect beach wetland areas and the mainland behind, are very sensitive to foot and vehicular traffic.

- Vehicle traffic on beaches will be limited to maintenance and emergency vehicles, allowed only at designated dune crossings.

- Public access through the dunes will be carefully controlled by a system of elevated boardwalks and fencing.

Overdune boardwalks can also be used to disperse visitors evenly all along the beach, eliminating overuse of areas close to the main point of entry. Boardwalk systems also benefit the physically disabled.

- Barrier-free access from the parking lot to the beach will be supplemented by at-grade beach boardwalks, providing wheelchair access to the water's edge.

"Beachgoers are greeted by huge paved parking lots, shimmering in the sun."

Automobiles and the roads and parking lots which serve them are often at odds with the ocean beach ecosystem. Barrier beach areas often consist of rolling, unstable, constantly shifting dunes or ecologically rich saltmarsh wetlands. Roads and parking lots must not interfere with these natural buffer zones.

- Roads and parking lots will be located behind the dunes. Wherever possible, they will be constructed of gravel, grass, or other soft materials. Paved surfaces will be used for handicapped and maintenance vehicle access.

- Alternative methods of transportation to beaches will be encouraged to reduce the need for vast paved parking lots. Bicycle paths will be incorporated where possible. Passenger drop-off areas and shuttle bus service from inland parking lots will be investigated for each beach.

"The harsh coastal climate causes inferior building materials to deteriorate rapidly and inappropriate systems to function poorly."

Historically, buildings at coastal locations have been constructed on or in front of the barrier dune, taking advantage of ocean views and close proximity to the beach. Now, the Commonwealth's stringent coastal regulations protect barrier dunes and wetlands from new construction in order to slow the erosion process and preserve the storm buffer and marine fishery resources of the coast. DEM's Ocean Beach Restoration Initiative conforms to existing regulations.

- Improperly sited structures will be removed and new ones, designed for minimum impact, will be located in upland areas wherever possible.

Buildings whose function requires proximity to the dunes will be constructed on pilings, or they will be portable and removable at the threat of a major storm. Bathhouses, the most heavily used beach structures, need not be centrally located in a single, large facility. Rather, small satellite bathhouses make access easier for people all along the beach and cause less serious environmental disruption.

Indigenous architectural styles and materials of coastal areas will be reflected in buildings at DEM beaches. Building materials will be selected for their weather resistance, strength,

climate-tempering capabilities, resistance to windborne salt and sand, and compatibility with regional architectural details.

Providing shade will be an important consideration, as will the channelling of cooling summer breezes. Energy conservation features, such as superinsulation, earth-sheltered building design and solar hot water systems will be incorporated where appropriate.

"The success of a recreation area depends on the management and maintenance of the facility."

DEM is committed to a program of preventative maintenance for its new and rehabilitated beach facilities. Beach areas will be designed for efficient use of staff and equipment. Numerous studies have shown that adequate, immediate attention to maintenance greatly reduces vandalism and abuse and decreased long-term total costs.

In closing,

Our beaches are ever-changing as erosion, and public use take their toll. But with careful planning, DEM will be able to satisfy today's need for safe, enjoyable, attractive ocean beaches, while anticipating the needs of future generations.